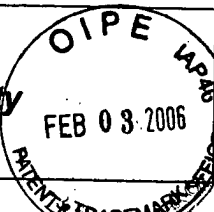


Notice of Allowability

Application No.

10/601,407

Examiner

Bryan A. Fuller

Applicant(s)

BYRD ET AL.

Art Unit

3676

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 12/5/05.
2. ☒ The allowed claim(s) is/are 14-23, 25-27, 29-31, & 33-49.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☐ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Thomas Morrow on 12/21/05.

The application has been amended as follows:

Claim 29 and claim 48 should be amended as follows:

Claim 29 (Currently Amended): A system for applying a pressure pulse to a subterranean formation comprising:

- a pump for continuously injecting a fluid into the subterranean formation; and
- a pressure pulse application device for applying a pressure pulse having a given amplitude and frequency to the fluid while the fluid is being injected into the subterranean formation, the pressure pulse application device comprising:

- a housing comprising:

- a fluid inlet port through which the fluid is supplied into the housing; and

- a fluid outlet port through which the fluid exits the housing;

- a fluid supply connected to the fluid inlet port;

- a plunger disposed in the housing, wherein the plunger has a hollow chamber in fluid communication with the fluid injection port through openings in the surface of the

plunger, and the hollow chamber is in fluid communication with the outlet port through a plunger outlet; and

a power source for moving the plunger.

Claim 48 (Previously Presented): A system for applying a pressure pulse to a subterranean formation, comprising:

means for continually injecting a fluid into the subterranean formation;

means for periodically applying a pressure pulse having a given amplitude and frequency to the fluid while the fluid is being injected into the subterranean formation, the pressure pulsing means comprising:

a housing;

a plunger disposed in the housing, wherein the plunger has a hollow chamber in fluid communication with the fluid injection port through openings in the surface of the plunger, and the hollow chamber is in fluid communication with the outlet port through a plunger outlet;

a power source for moving the plunger within the housing, the power source comprising an accumulator capable of storing fluid under pressure;

a fluid injection port through which the fluid is supplied into the housing; and

an outlet port through which the fluid exits the housing.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bryan A. Fuller whose telephone number is (571) 272-8119. The examiner can normally be reached on M - Th 7:30 - 5:00 and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian E. Glessner can be reached on (571) 272-6843. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Brian E. Glessner
Supervisory Patent Examiner
Art Unit 3676

baf



Interview Summary

Application No. 10/601,407	Applicant(s) BYRD ET AL.	
Examiner Bryan A. Fuller	Art Unit 3676	

All participants (applicant, applicant's representative, PTO personnel):

- (1) Bryan A. Fuller. (3) _____
(2) Thomas Morrow. (4) _____

Date of Interview: 20-21 DEC 05.

Type: a) ☒ Telephonic b) ☐ Video Conference
c) ☐ Personal [copy given to: 1) ☐ applicant 2) ☐ applicant's representative]

Exhibit shown or demonstration conducted: d) ☐ Yes e) ☒ No.
If Yes, brief description: _____

Claim(s) discussed: 29 and 48.

Identification of prior art discussed: Davidson et al (6,241,019) and Conally (5,244,362).

Agreement with respect to the claims f) ☒ was reached. g) ☐ was not reached. h) ☐ N/A.

Substance of Interview including description of the general nature of what was agreed to if an agreement was reached, or any other comments: Examiner contacted Attorney for Applicant with an offer of an Examiner's amendment to claims 29 and 48 to make the application allowable. Examiner offered to add the language of the original claim 14 to current claims 29 and 48. Attorney for Applicant agreed to these changes.

(A fuller description, if necessary, and a copy of the amendments which the examiner agreed would render the claims allowable, if available, must be attached. Also, where no copy of the amendments that would render the claims allowable is available, a summary thereof must be attached.)

THE FORMAL WRITTEN REPLY TO THE LAST OFFICE ACTION MUST INCLUDE THE SUBSTANCE OF THE INTERVIEW. (See MPEP Section 713.04). If a reply to the last Office action has already been filed, APPLICANT IS GIVEN A NON-EXTENDABLE PERIOD OF THE LONGER OF ONE MONTH OR THIRTY DAYS FROM THIS INTERVIEW DATE, OR THE MAILING DATE OF THIS INTERVIEW SUMMARY FORM, WHICHEVER IS LATER, TO FILE A STATEMENT OF THE SUBSTANCE OF THE INTERVIEW. See Summary of Record of Interview requirements on reverse side or on attached sheet.

Examiner Note: You must sign this form unless it is an Attachment to a signed Office action.

Examiner's signature, if required